DESCRIPTIONS OF FOUR NEW SUBSPECIES OF LYCAENID BUTTERFLIES FROM PALAWAN (LEPIDOPTERA: LYCAENIDAE)

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5—2, Tamatsukuri-honmachi, Tennoji-ku, OSAKA, 543

Udara cyma elioti H. Hayashi, ssp. nov. (Figs. 1—2)

♂. Forewing apex blunt. Upperside purple, and purple colour on hindwing vestigial. Underside greyish white. Markings rather regular. Forewing postdiscal spot in space 6 inwardly out of line with spots below. Hindwing postdiscal spot in space 2 shifted in out of line with the rest of postdiscal spots. Two spots in space 7 pure black, outer one being larger and prominent.

Forewing length 13—15 mm.

Distribution: Palawan

Holotype ♂, Taot-Daram, Palawan, 25 April 1967, Y. Honda leg. Paratypes: 1♂, Taot-Daram, Palawan, 26 April 1967, Y. Honda leg; 1♂, Alibobogan, Palawan, 10 December 1969, Y. Honda leg.

The species is essentially Neomalayan, although it extends as far north as Mergui, and is newly recorded from Palawan. This new subspecies differs from the nominate subspecies (*cyma* Toxopeus) distributed in the above-mentioned areas as follows: 1) Upperside hindwing purple colour vestigial, but not vestigial and almost confined to cell in the nominate subspecies. 2) Underside postdiscal spots range not so near to submarginal lunules as the same spots of the nominate subspecies do. In particular postdiscal spots on hindwing of this new subspecies extremely situate inwardly. 3) Hindwing submarginal lunules not so inwardly convexed as those of the nominate subspecies.

I name this new subspecies after Lt. Col. J. N. Eliot, who often gave me useful advice and kind assistance, in recognition of his remarkable contribution to *Lycaenopsis* section.

Nacaduba angusta hondai H. Hayashi, ssp. nov. (Figs. 5—8)

♂. Upperside purple blue with linear borders. Underside ground colour pale yellowish brown. Two submarginal rows of dark spots prominent. Other longitudinal stripes pale brown and conspicuous.

Forewing length 16 mm.

♀. Upperside forewing dark brown except disc. Whitish disc slightly dusted with bluish scaling basally. Dark brown spots. Hindwing ground colour a little lighter than forewing. Basal area slightly dusted with bluish scaling. Dark submarginal spots. Underside as in male.

Forewing length 16 mm.

Distribution: Palawan

Holotype ♂, Ransang Gimba, Palawan, 22 November 1969, Y. Honda leg. Paratypes: 1♀, Ransang Gimba, Palawan, 25 November 1969, Y. Honda leg; 1♀, Ransang Gimba, Palawan, 16 August 1968, Y. Honda leg; 1♂, Ransang Gimba, Palawan, 25 November 1969, Y. Honda leg; 1♀, Alibobogan, Palawan, 7 December 1969, Y. Honda leg; 1♀, Alibobogan, Palawan, 8 December 1969, Y. Honda leg.

The male of this new subspecies differs mainly from the same sex of ssp. *thespia* Fruhstorfer (Banguey Islands situated in the south of Balabac Islands, Type!) and ssp. *limbura* Fruhstorfer (South Philippines) as follows: 1) Underside ground colour darker than *thespia* but lighter than *limbura*. 2) Underside discal stripes more prominent than *thespia* and *limbura*.

There are two further subspecies in concerened areas; ssp. *kerriana* Distant from Malaya and ssp. *angusta* Druce from Borneo. The male of this new subspecies resembles the same sex of ssp. *kerriana* more than ssp. *angusta*, but may be distinguished by the following respects: 1) Larger in size. 2) Underside ground colour darker than *angusta*, but lighter than *kerriana*. 3) Underside longitudinal stripes in discal area darker than ground colour, however almost the same as ground colour in *kerriana* and *angusta*.

The subspecific name is dedicated to Mr. Yasuzô Honda who collected the specimens.

Narathura horsfieldi palawanica H. Hayashi, ssp. nov. (Figs. 13—16)

♂. Forewing termen slightly convex. Upperside forewing black border very broad, 10 mm. at apex to 4 mm. at mid-termen and 6 mm. at dorsum, shining green scaling on the rest of forewing. Hindwing shining green only in cell, and sparsely. Underside dark brown. Markings on forewing slightly darker than ground, but those on hindwing almost concolorous with ground. Forewing discal spot in space 4 outwardly out of line with spots in spaces 3 and 5. Hindwing cell nearly equals half wing. Discal band not completely broken at vein 2. Discal spots in spaces 6 and 7 broad.

Forewing length 19 mm.

♀. Upperside purple with broad borders. Underside as in male, but discal band on forewing narrower than those of male.

Forewing length 19 mm.

Distribution: Palawan

Holotype ♂, Ransang Gimba, Palawan, 24 November 1969, Y. Honda leg. Paratype: ♀, Taot-Daram, Palawan, 1 August 1968, Y. Honda leg.

The species was known from Tenasserim, Burma, Peninsula Siam, Neomalaya, Nias and Java, and is new to the fauna of Palawan. The male of the present new subspecies differs from the same sex of ssp. *basiviridis* De Nicéville occurrng in Malaya, Sumatra, Banka and Borneo as follows: 1) Smaller in size. 2) Shining green scaling on upperside less brilliant than *basiviridis*, and in particular obsolete on hindwing. 3) Underside ground colour paler than *basiviridis*. 4) Pale brown line edging the spots on underside not so clear as in *basiviridis*.

Zeltus amasa miyatakei H. Hayashi, ssp. nov. (Figs. 19—22)

♂. Upperside pale azure blue in baso-dorsal area of forewing and the whole of hindwing, except apical area. The rest of wing black, shot with deep purple. Underside pale bluish white, with apical areas shaded ochreous brown. Cell-end bars darker ochreous brown on forewing. A dark ochreous brown postdiscal band on both wings, but that on hindwing becoming narrower and changing into black downwards. A small black spot in space 7 of hindwing. A conspicuous black marginal spot in space 2 and on lobe.

Forewing length 14—16 mm.

♀. Upperside ferruginous brown. Whitish tornal area on hindwing marked with black marginal spots and obscure greyish fasciae. Underside as in male, but apical areas paler than male.

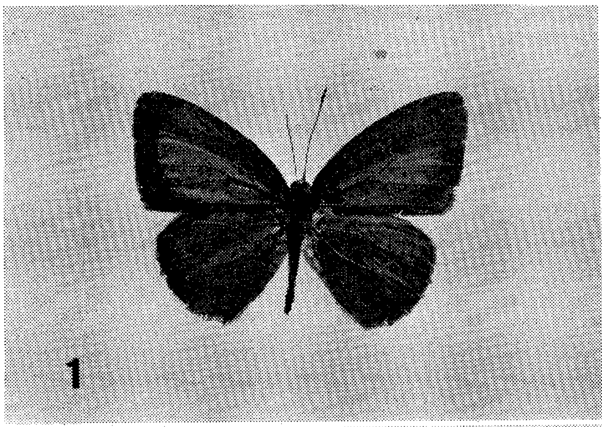
Forewing length 14—16 mm.

Distribution: Palawan

Holotype ♂, Taot-Daram, Palawan, 3 August 1968, Y. Honda leg. Paratypes: 1♀, Taot-Daram, Palawan, 29 July 1968, Y. Honda leg; 1♀, Taot-Daram, Palawan, 30 July 1968, Y. Honda leg; 1♀, Taot-Daram, Palawan, 3 August 1968, Y. Honda leg; 1♂, Taot-Daram, Palawan, 26 April 1967, Y. Honda leg; 1♂, Taot-Daram, Palawan, 9 May 1967, Y. Honda leg; 1♂, Taot-Daram, Palawan, 2 August 1968, Y. Honda leg.

The species is distributed from India to Hainan, Malaysia and the Philippines. The male of this present new subspecies differs from the same sex of ssp. *maximinianus* Fruhstorfer distributed in Malaya, Sumatra and Borneo as follows: 1) Upperside azure blue in baso-dorsal area of forewing clearly shows, but obscure in *maximinianus*. 2) Underside forewing ochreous brown colour in apical area less extensive towards base beyond cell-end than *maximinianus*. 3) Hindwing postdiscal band more or less separated by a whitish vein between spaces 6 and 7, however vein 7 in postdiscal band tinged with dark ochreous brown in *maximinianus*.

The subspecific name is dedicated to Mr. Yorio Miyatake in the Department of Entomolgy of the Osaka Museum of Natural History who always gives me the facilities for examining the specimens.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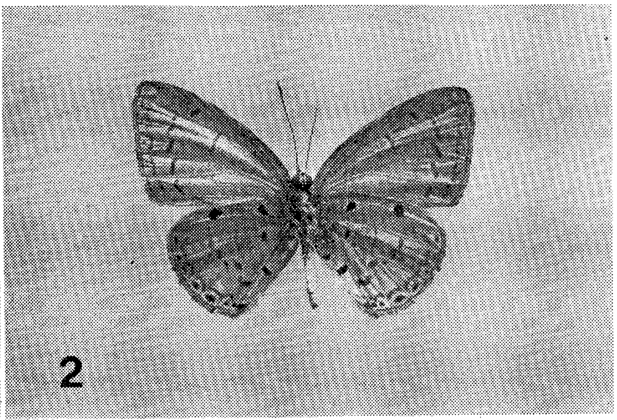
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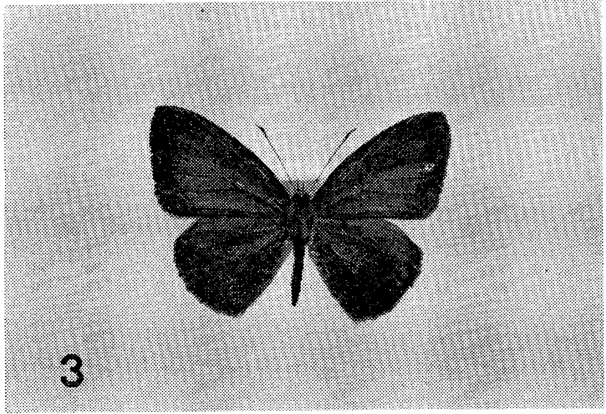
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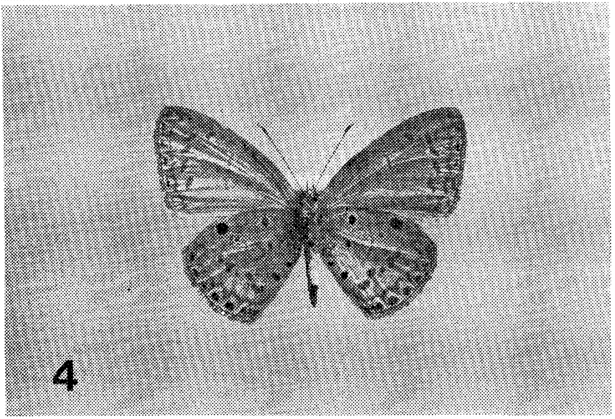
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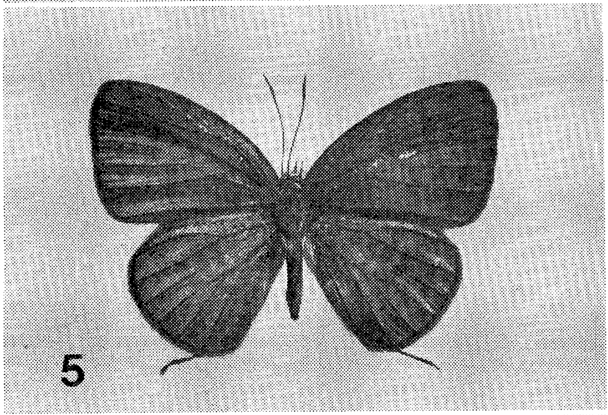
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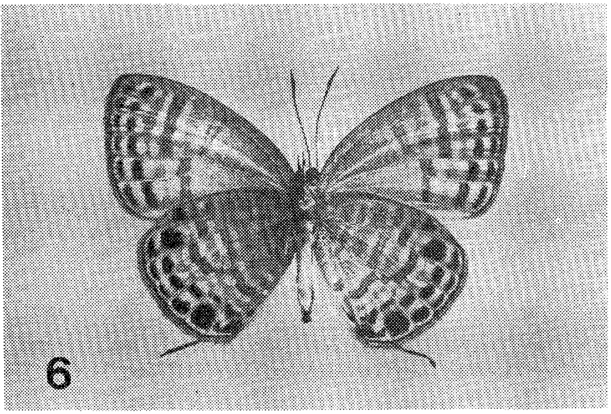
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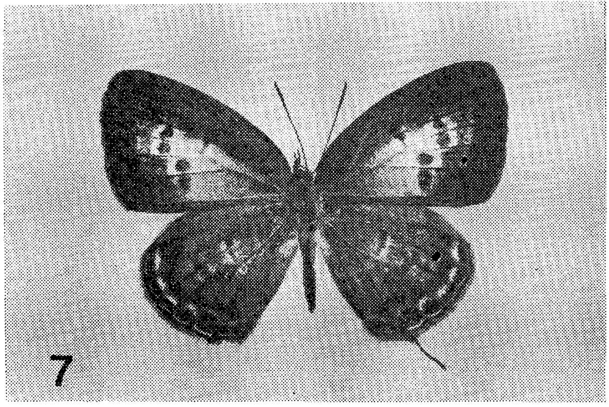
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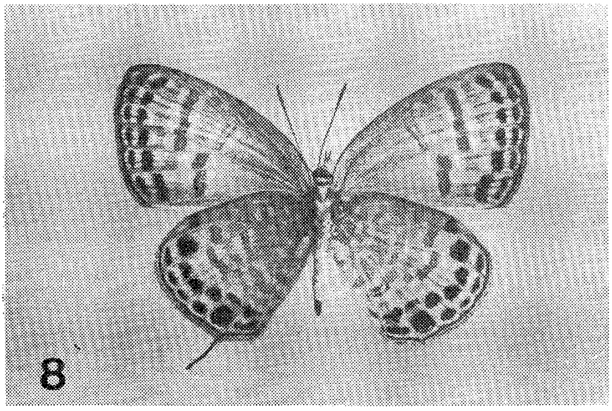
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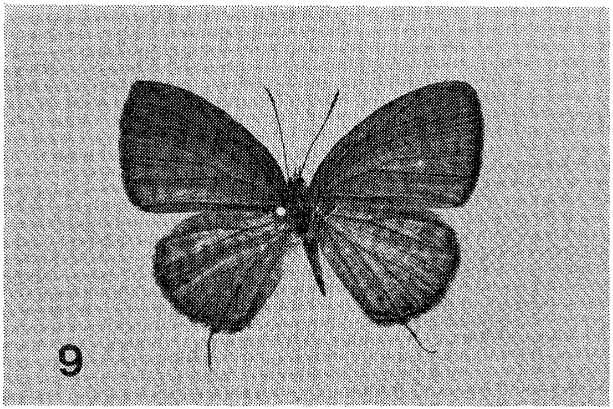
Figs. 1—2. *Udara cyma elioti* ssp. nov., holotype ♂.
Figs. 3—4. *Udara cyma cyma* Toxopeus, for comparison.
Figs. 5—6. *Nacaduba angusta hondai* ssp. nov., holotype ♂.
Figs. 7—8. ditto paratype ♀.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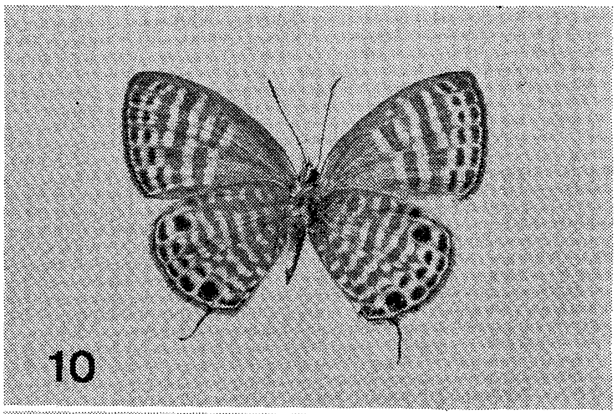
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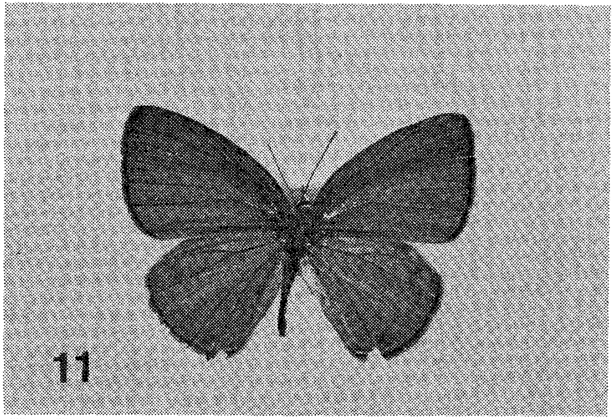
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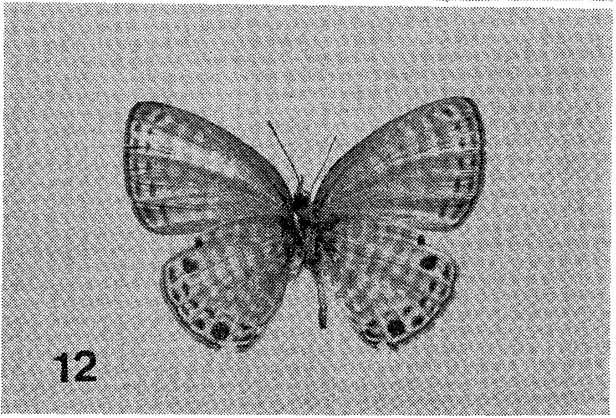
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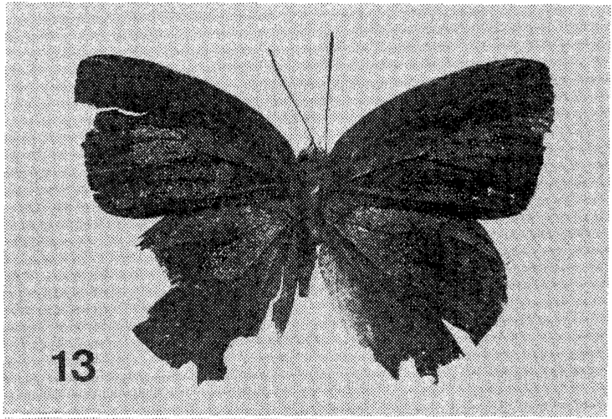
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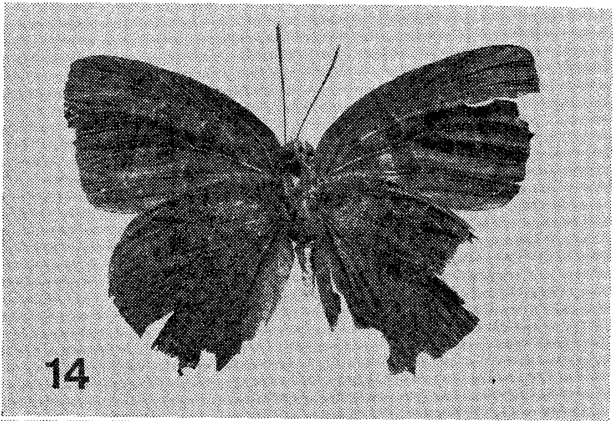
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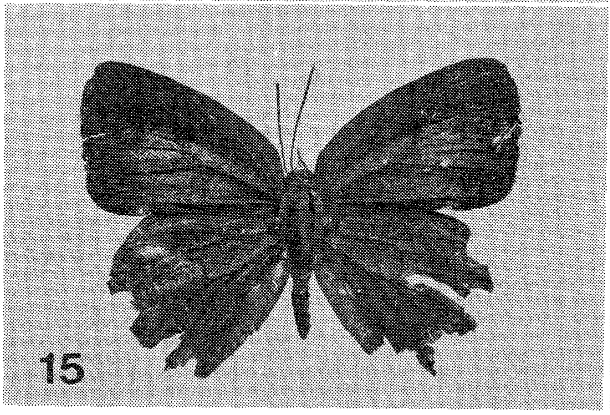
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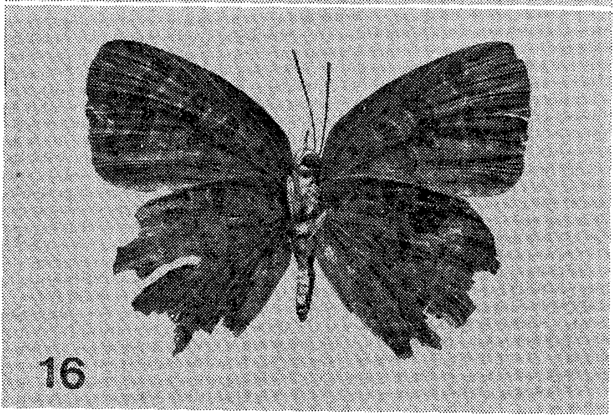
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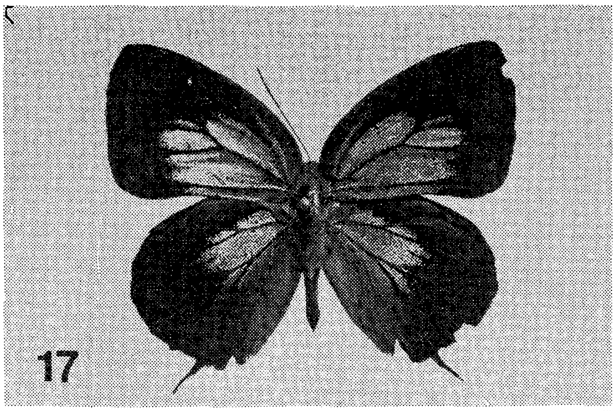
Figs. 9—10. *Nacaduba angusta kerriana* Distant, for comparison.
Figs. 11—12. *N. a. angusta* Druce, for comparison.
Figs. 13—14. *Narathura horsfieldi palawanica* ssp. nov., holotype ♂.
Figs. 15—16. ditto paratype ♀.



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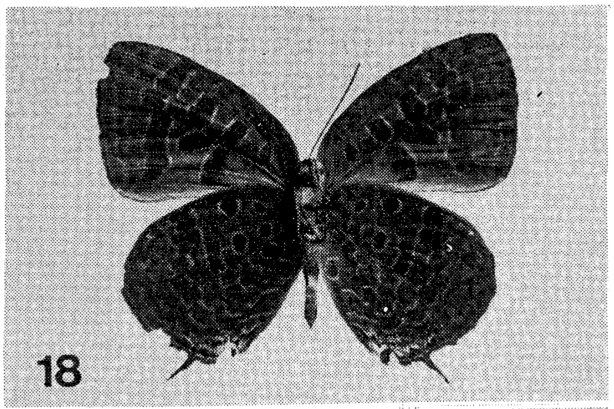

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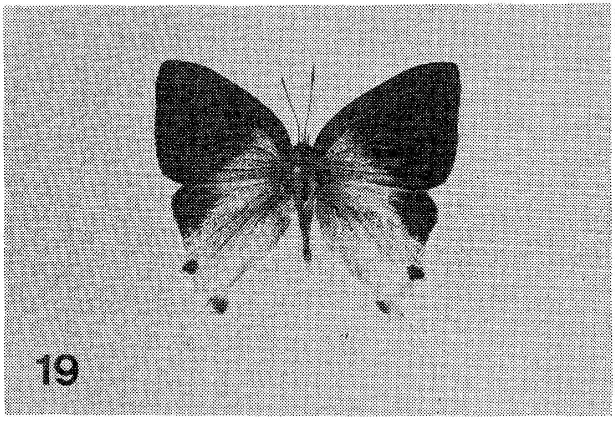

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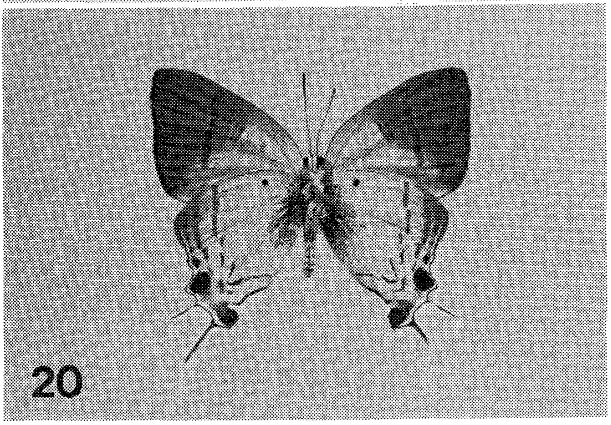

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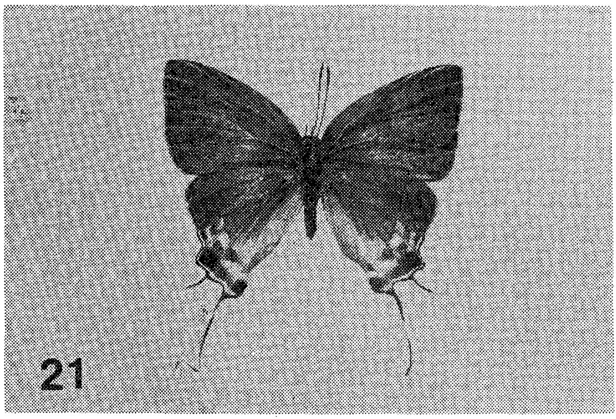

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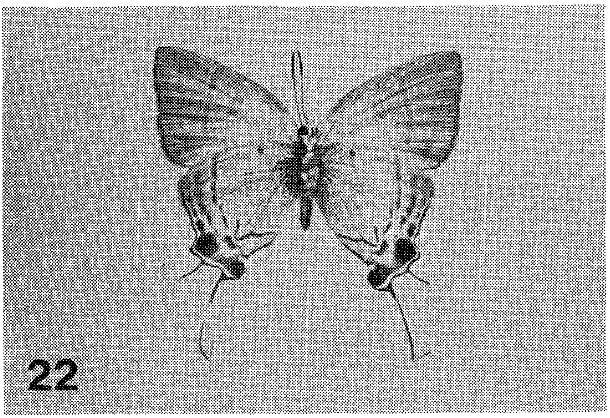

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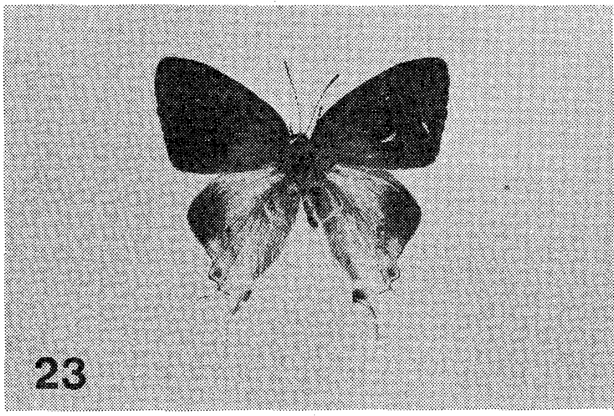

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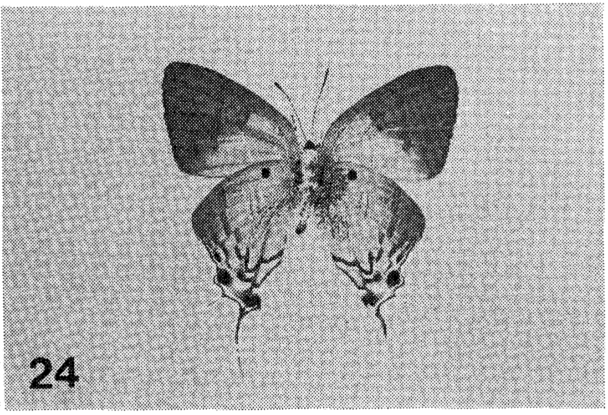

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Figs. 17—18. *Narathura horsfieldi basiviridis* De Nicéville, for comparison.
Figs. 19—20. *Zeltus amasa miyatakei* ssp. nov., holotype ♂.
Figs. 21—22. ditto paratype ♀.
Figs. 23—24. *Zeltus amasa maximinianus* Fruhstorfer, for comparison.

Acknowledgents: I am deeply indebted to Mr. Isamu Hiura of the Osaka Museum of Natural History for his kindness in giving me a opportunity to study the material preserved there. My best thanks are also due to Mr. Y. Honda who collected butterflies in Palawan, and Mr. Akito Kawazoé who always gives me useful advice.

神奈川県箱根産キリシマミドリシジミの尾状突起の長さの変異

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Variation of length of the tail of *Chrysozephyrus ataxus kirishimaensis* Okajima collected at Hakone, Kanagawa Prefecture, Honshû

TOMOYUKI YAMANE

静岡県愛鷹山産キリシマミドリシジミの尾状突起の変異については，さきに蝶と蛾，24：55—56，1973にて報告したが，その後，更に約25km東にあたる箱根（神奈川県足柄下郡湯河原町）にて採卵したものについて飼育し，尾状突起の変異について調べたので報告する．

飼育にはコナラを使用したがよく生育し，アカガシ，アラカシの場合と同じで，異常は見られなかった．

尾状突起の長さは前回と同じ方法で計測した．すなわち，尾状突起基部外側の黒色縁毛の先端部より突起の白色末端部までを実測した．実測には，接眼マイクロメーター（最小目盛0.05mm）のついた計測顕微鏡を用い，0.1mmまで計った．

28♂♂，33♀♀について調査したが，その結果は Fig. 1 のとおりであった．もっとも長いものは4.9mmあり，もっとも短いものは1.1mmであった．3.4mm～2.8mmのものはなかった．長尾型の平均は4.25mm，標準偏差は0.42であり，短尾型の平均は1.71mm，標準偏差は0.45であった．前回調査した愛鷹山産に比べ，尾状突起の長さはやや長く，バラツキは大きかった．また，愛鷹山産は長尾型と短尾型がほぼ同数であったが，箱根産は66頭中長尾型が21頭，短尾型が45頭で，その比は1：2と短尾型の方が多かった．

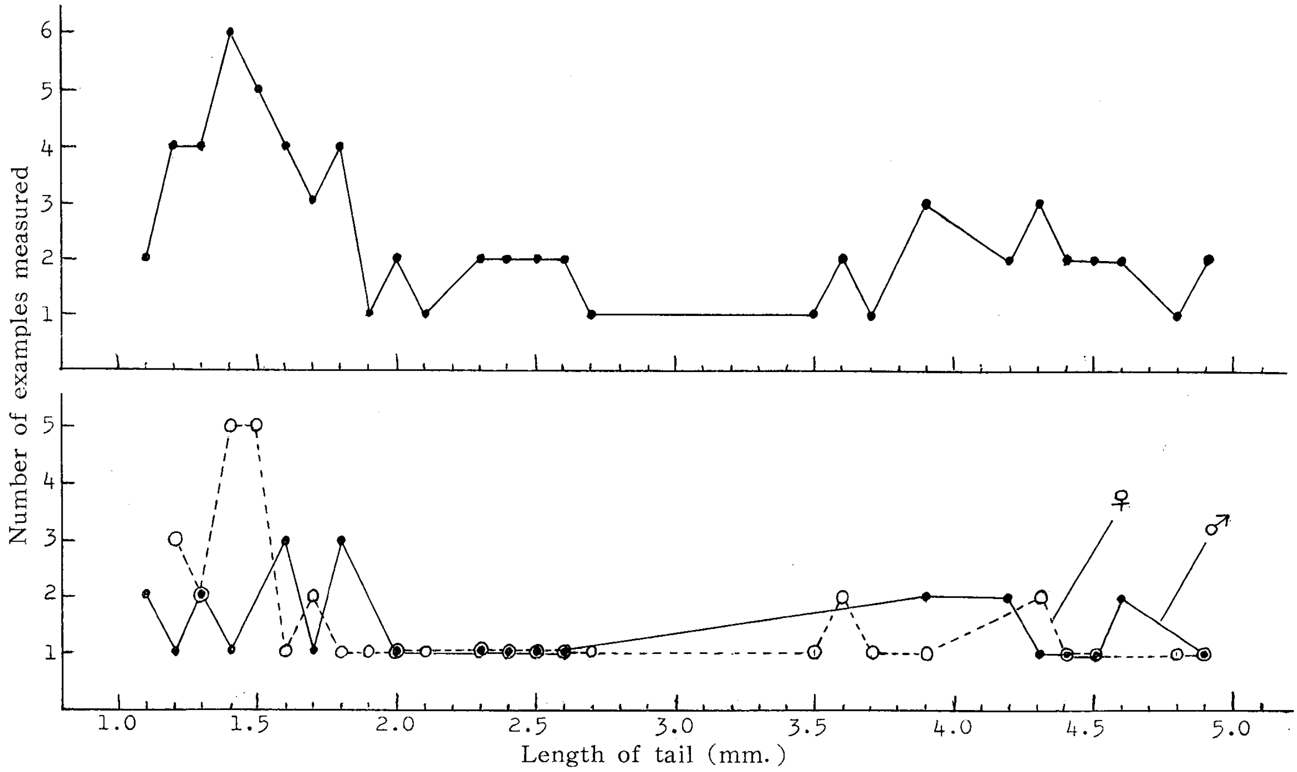

Fig. 1. Variation of tail of *Chrysozephyrus ataxus kirishimaensis* Okajima taken at Hakone, Kanagawa Prefecture: *upper*, ♂ and ♀ measured together; and *lower*, ♂ and ♀ separately.